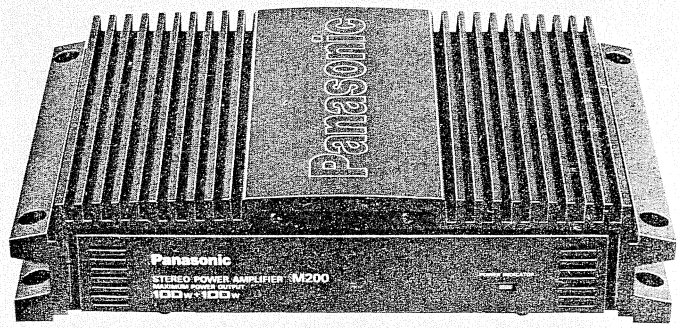
ORDER NO. APD8801868

Service Manual

AUTO PRODUCTS

CX-M200EN

STEREO POWER AMPLIFIER



Specifications

Power Supply	: DC 12V (11 ~ 16V) Test Voltage 14.4V Negative Ground
Current Consumption	: 14A (at 60W + 60W output)
Speaker Impedance	: 4Ω ~ 8Ω
Power output	: 2 × 60W (1,000Hz, 1% at 4Ω)
Maximum Power Output	: 2 × 100W (at 4Ω)
Total Harmonic Distortion	
at 20W Output	: 0.09% (20Hz ~ 20,000Hz)
at 20W Output	: 0.07% (1,000Hz)
Signal to Noise Ratio	: 100 dB (IHF. A)
Frequency Response	: 5Hz ~ 100,000Hz
Damping Factor	: 60 (at 4Ω)
Input Sensitivily	: 300mV
Input Impedance	: More than 10kΩ
Dimensions	: 255(W) × 180(D) × 55(H) mm
Weight	: 2.5Kg

NOTE:
Specifications and the design are subject to possible modification without notice due to improvements.

Panasonic

Matsushita Electric Trading Co., Ltd.
P. O. Box 288, Central Osaka, Japan

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FEATURES

- A DC-DC converter type power supply is built in.
- A high-through-rate IC is mounted after the preamplifier.
- The high-power design ensures enjoyment of sound in a high dynamic range.
- An aluminum radiator is employed.
- The power supply is automaticallyy turned on and off by remote control from or tuner.
- A floating input system is employed.
- Can be connected to other sets having DIN or RCA terminals.
- The volume balance of tuner, deck, speaker, etc. can be controlled using the gain control knob.

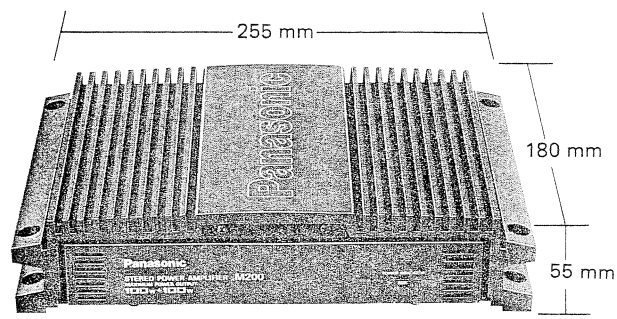
FUSE REPLACEMENT

Be sure to use a fuse of specified rating (20A, 3A) when replacing a blown fuse.
Fuses rated at higher capacity, use of any subsitiute, or connection without a fuse may result in a fire hazard or damage to the unit.
If the replacement fuse fails, contact your nearest authorized Panasonic Service Center.

OUTSIDE CLEANING

To clean the outside of the set (escutcheon and chassis), use a soft cloth to wipe the surface.
Do not use benzine, thinner, or any other type of solvent.

DIMENSIONS

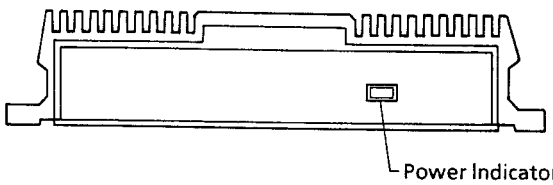


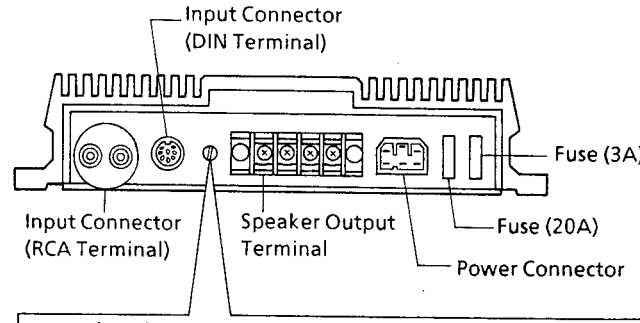
OPERATION

- This unit is automatically switched on and off if the power switch of the tape player / radio is turned on and off. The power indicator lights up when the tape player / radio is turned on.
- Due to its large output, the current consumption of the unit is also large; therefore, the unit should not be used for more than 30 minutes with the engine in an idling state or stopped. Otherwise, the battery may deteriorate so that starting of the engine may become impossible.
- If abnormal conditions occur, the protector circuit activates and the audio output will not be heard. In this case, immediately switch off the power of the tape player / radio or / and shut the engine off of the car. Check the wiring connection and find out the cause. Operate the unit only after correcting the problem completely.

Overload Protector Circuit: This circuit serves as a protection for the power amplifier when a short circuit occurs, such as in the speaker output terminal, etc.

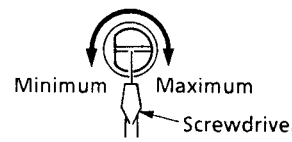
Heat Protector Circuit: This circuit serves as a protection to the power amplifier when temperature exceeds 100°C.





Level Adjustment (LEVEL ADJ.)

- If different types of speakers or amplifiers are used in a multi-amplifier system, the acoustical output from each speaker may not be balanced properly depending on the speaker's sensitivity and the amplifier's gain. In such case, use a flat-head screwdriver to adjust the level until the output from each speaker is balanced.



- When used with other components designed for amplifiers with lower sensitivity, reduce the amplifiers sensitivity by turning the level adjustment counterclockwise.

BEFORE INSTALLING AND WIRING CONNECTIONS

- This equipment is designed to be used only in a 12-Volt, DC battery system with negative ground.
- For installation of the unit, please consult your nearest Panasonic dealer.
- The speakers to be used with the amplifier should have more than 100W of maximum input. Use of speakers with small input ratings can result in damage to the speakers.
- The speaker cord and the power amplifier unit should be kept away (about 30cm apart) from the antenna and antenna extension cord when installing and making wiring connection.
- The recommended locations for installation are under the front seat or the parcel tray. However, avoid the following locations under any circumstances:
  - Near the car heaters or in the enclosed spaces (under the carpet or in the glove box) because of the poor ventilation.
  - On the floor near the doors, because the floor often gets wet. On the driver's floor because it hinders driving.

CAUTION
- Use ungrounded speakers only.
- Do not ground any of the speaker leads.
- To prevent damage to unit be sure to follow the wire connections diagram at reverse side.
- Be sure to insulate exposed wiring so as to protect it from short-circuit if touched with some metal item.

NOTE:
- The Power Extension Cord ② should be kept away from the speaker leads.
- Connect the power leads after other connections are made.
- Be sure to connect the yellow power lead to the positive terminal (+) of the battery or fuse block (BAT) terminal.
- Please carefully read the operating instructions of the respective equipment before connecting it to this unit.

NOTE: For installation to cars equipped with trip or navigational computer, all electronic memory settings previously registered on the computer would fade out when the battery terminal is disconnected. For this type of cars, battery could not be disconnected (unless necessary) thus, wiring connection and installation of this unit should be carefully done and short-circuit should be avoided.

Speaker Selection

This unit consists of two amplifiers with rated output of 60W per channel. Therefore, please use speakers with 60W continuous power rating or more (with max. 100W input or more). When speakers with input capacity less than 60W are used, they can be damaged.

- The speaker impedance should be 4 ~ 8 ohms. If the impedance is too large or too small, it affects the output and may result in damage to the speaker or this unit.

INSTALLATION

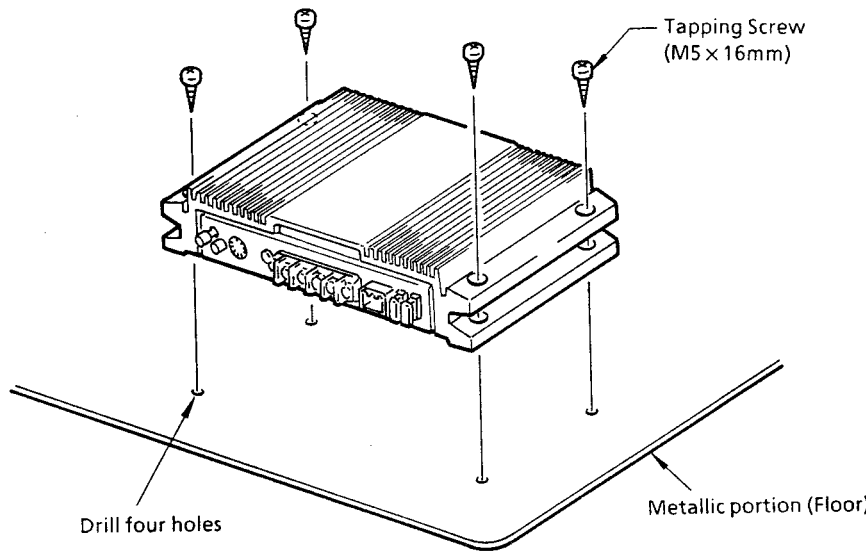
Installation Accessories

The unit is supplied with the following accessories:

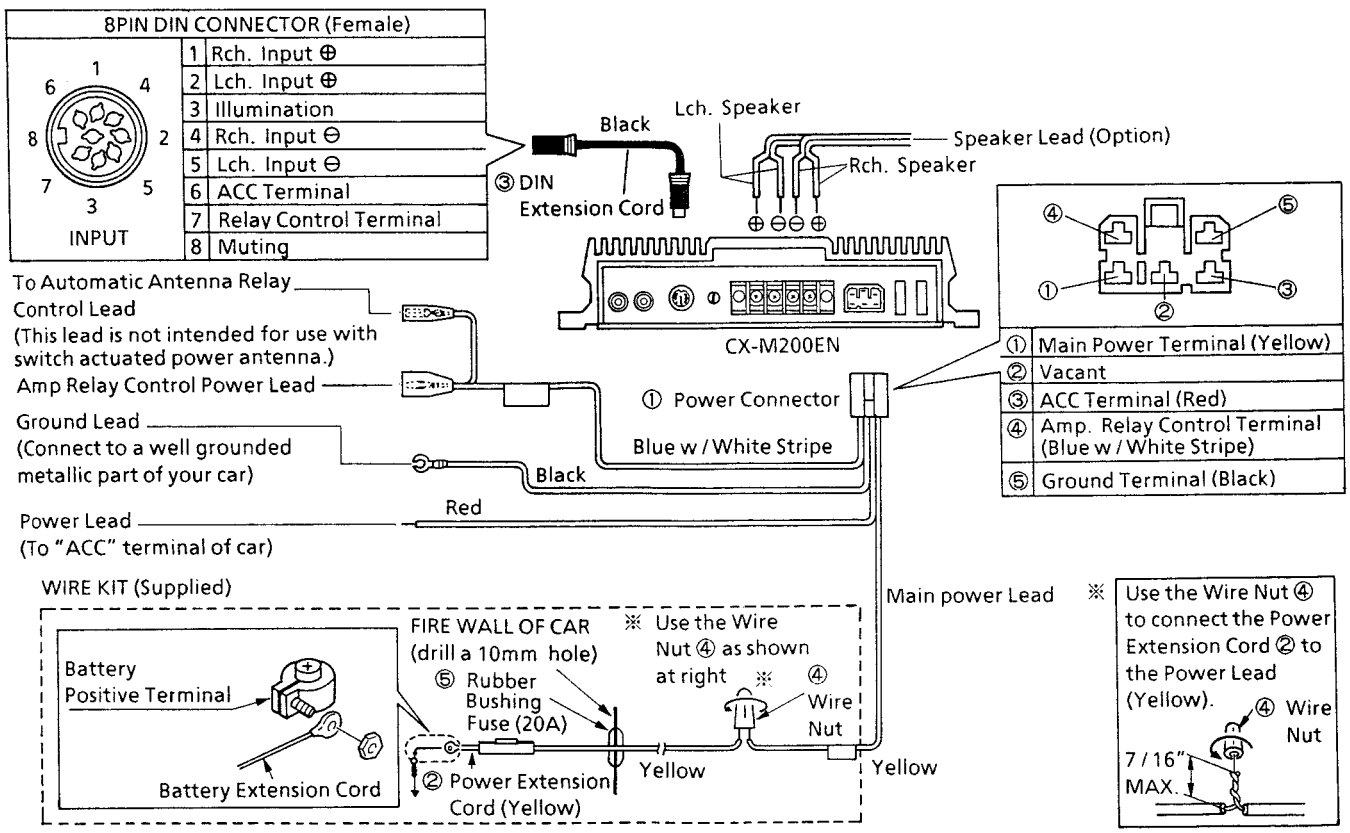
No.	Item	Q'ty
①	Power Connector	1
②	Power Extension Cord (8'2-1/2")	1
③	DIN Extension Cord (4'11")	1

No.	Item	Q'ty
④	Wire Nut	1
⑤	Rubber Bushing	1
⑥	Tapping Screw (M5 x 16mm)	4

Example: INSTALLATION ON THE FLOOR (Metallic portion)

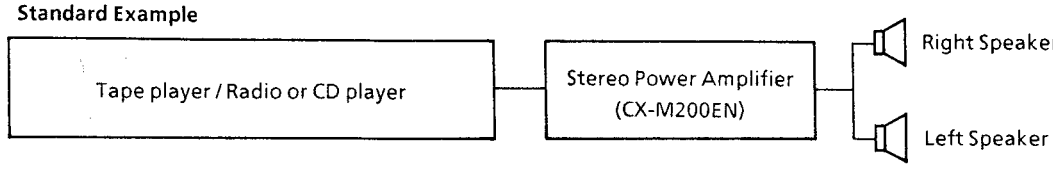


WIRING DESCRIPTION

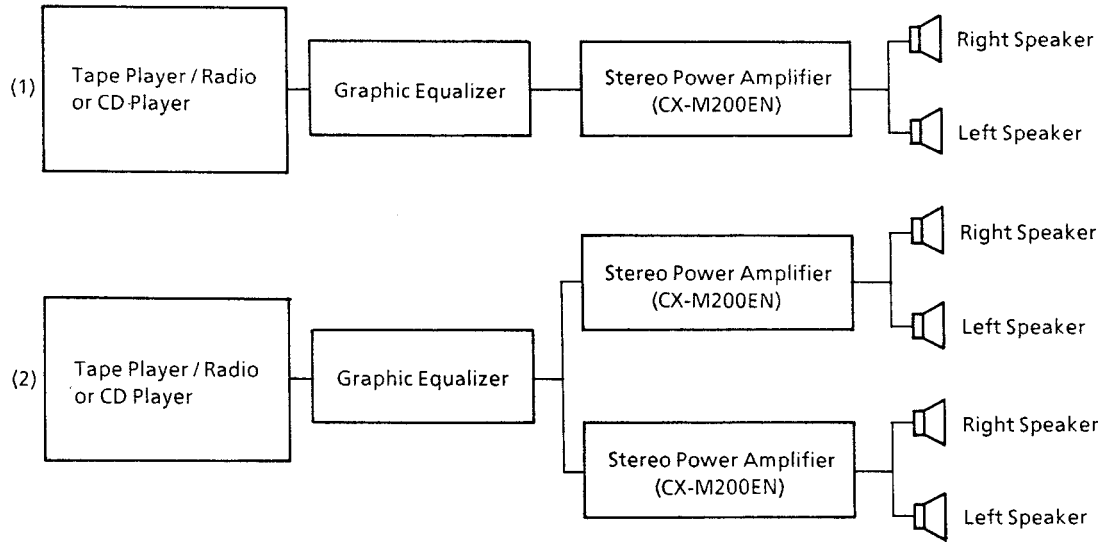

8PIN DIN CONNECTOR (Female)
1 Rch. Input ⊕
2 Lch. Input ⊕
3 Illumination
4 Rch. Input ⊖
5 Lch. Input ⊖
6 ACC Terminal
7 Relay Control Terminal
8 Muting
INPUT
③ DIN Extension Cord
Black
Lch. Speaker
Speaker Lead (Option)
Rch. Speaker
CX-M200EN
① Main Power Terminal (Yellow)
② Vacant
③ ACC Terminal (Red)
④ Amp. Relay Control Terminal (Blue w / White Stripe)
⑤ Ground Terminal (Black)
To Automatic Antenna Relay Control Lead
(This lead is not intended for use with switch actuated power antenna.)
Amp Relay Control Power Lead
Ground Lead
(Connect to a well grounded metallic part of your car)
Power Lead
(To "ACC" terminal of car)
① Power Connector
Blue w / White Stripe
Black
Red
WIRE KIT (Supplied)
Battery Positive Terminal
Battery Extension Cord
FIRE WALL OF CAR
(drill a 10mm hole)
⑤ Rubber Bushing
Fuse (20A)
② Power Extension Cord (Yellow)
※ Use the Wire Nut ④ as shown at right
④ Wire Nut
Yellow
Main power Lead
Yellow
※ Use the Wire Nut ④ to connect the Power Extension Cord ② to the Power Lead (Yellow).
④ Wire Nut
7/16" MAX.

SYSTEM DIAGRAM

- **Standard Example**



- **Other Examples**

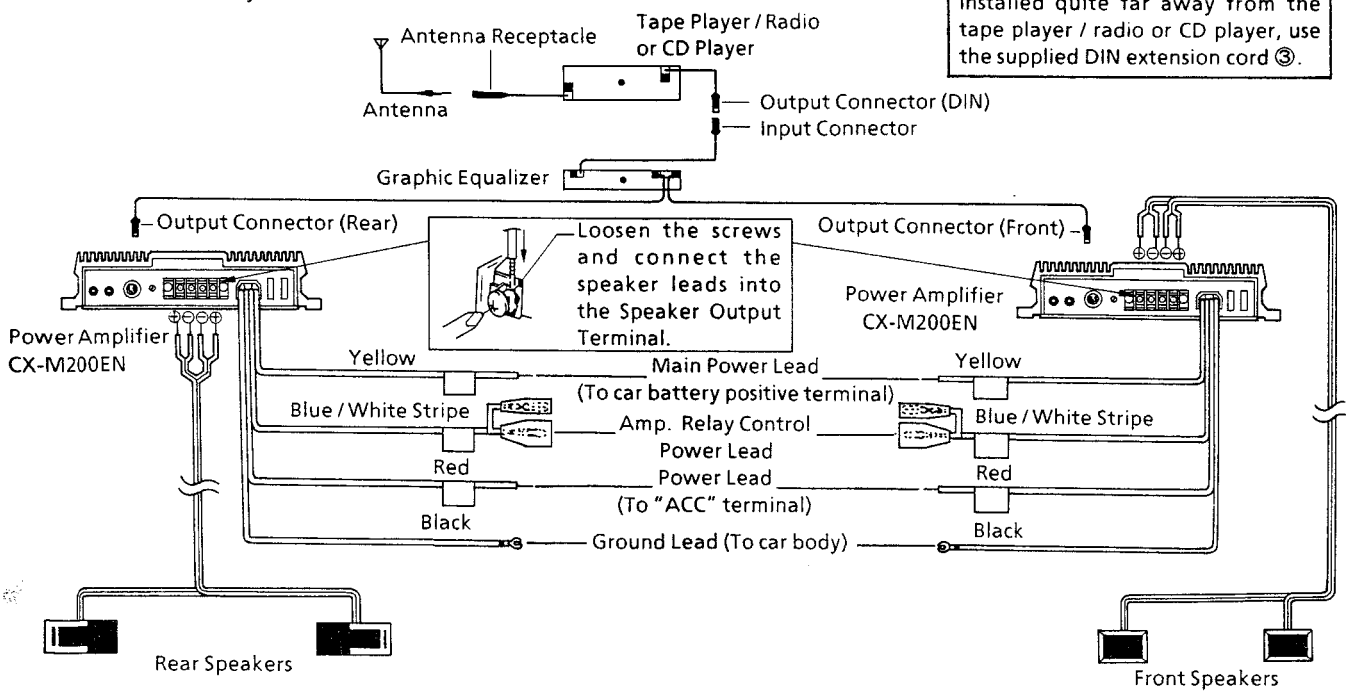


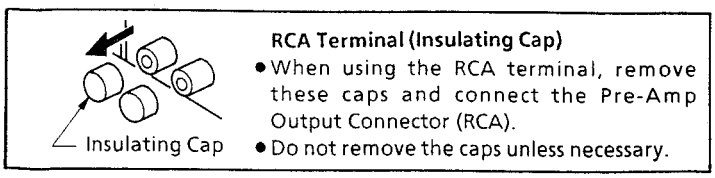
COMPOSITION AND WIRING CONNECTION

Before connecting:

- Disconnect the negative side of the battery to prevent short-circuit during wiring.
- If in doubt, consult your nearest dealer.

NOTE:
If the power amplifier (s) is / are to be installed quite far away from the tape player / radio or CD player, use the supplied DIN extension cord ③.





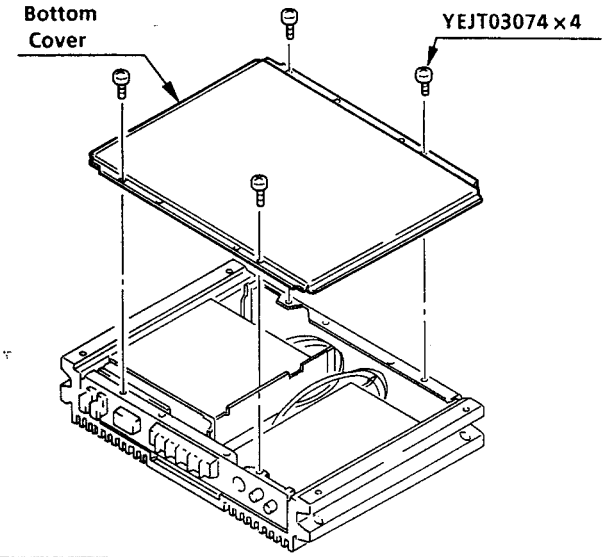
RCA Terminal (Insulating Cap)

- When using the RCA terminal, remove these caps and connect the Pre-Amp Output Connector (RCA).
- Do not remove the caps unless necessary.

DISASSEMBLY INSTRUCTIONS

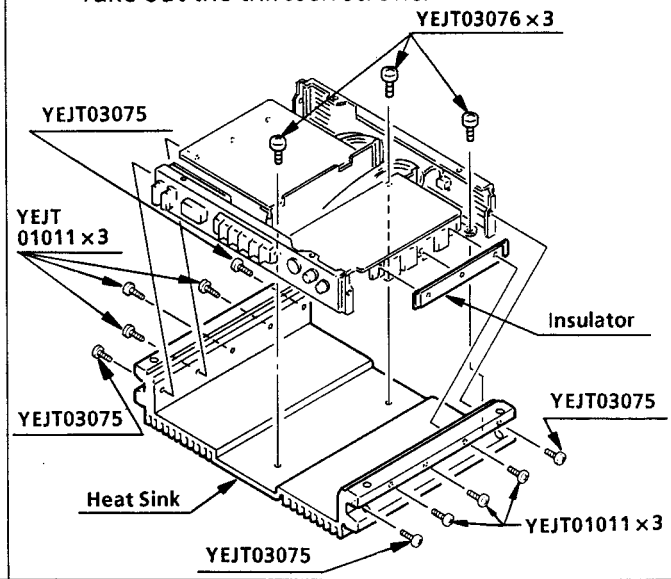
1) BOTTOM COVER REMOVAL

- Take out the four screws.



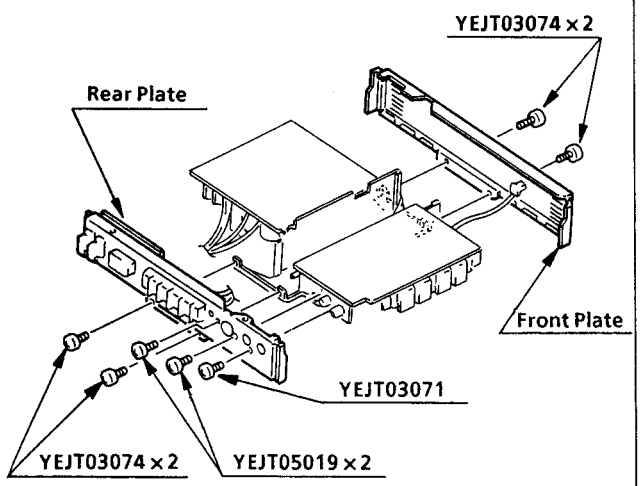
2) HEAT SINK REMOVAL

- Take out the thirteen screws.



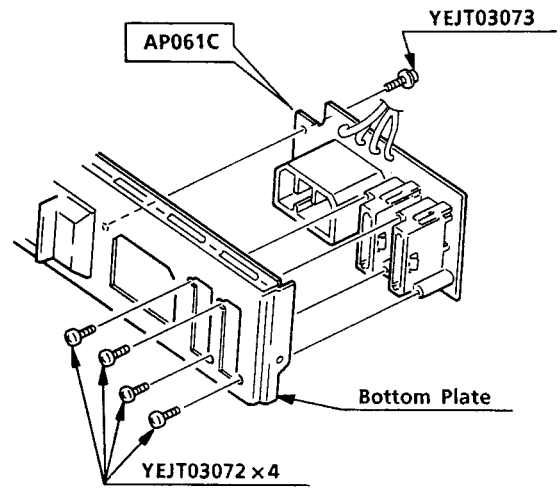
3) FRONT/REAR PLATE REMOVAL

- Take out the seven screws.



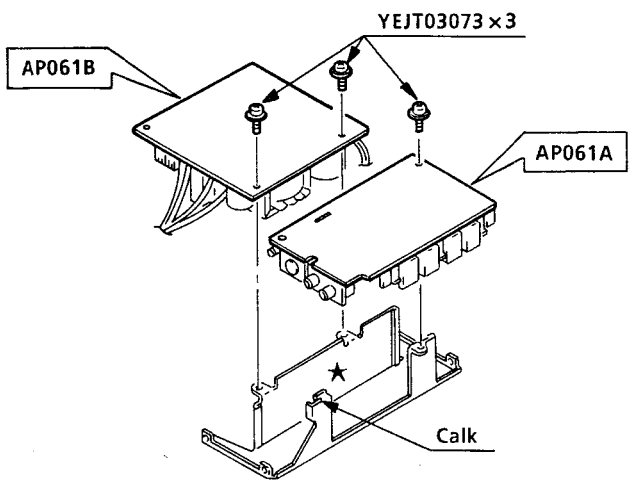
4) PCB (AP061C) REMOVAL

- Take out the five screws.



5) PCB REMOVAL

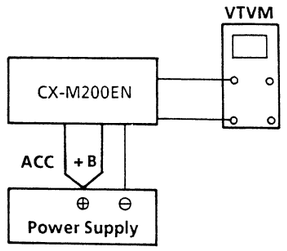
- Take out the three screws.
- Remove the calking. (★ mark)



ALIGNMENT POINT AND ALIGNMENT INSTRUCTIONS

1. ALIGNMENT CONDITION

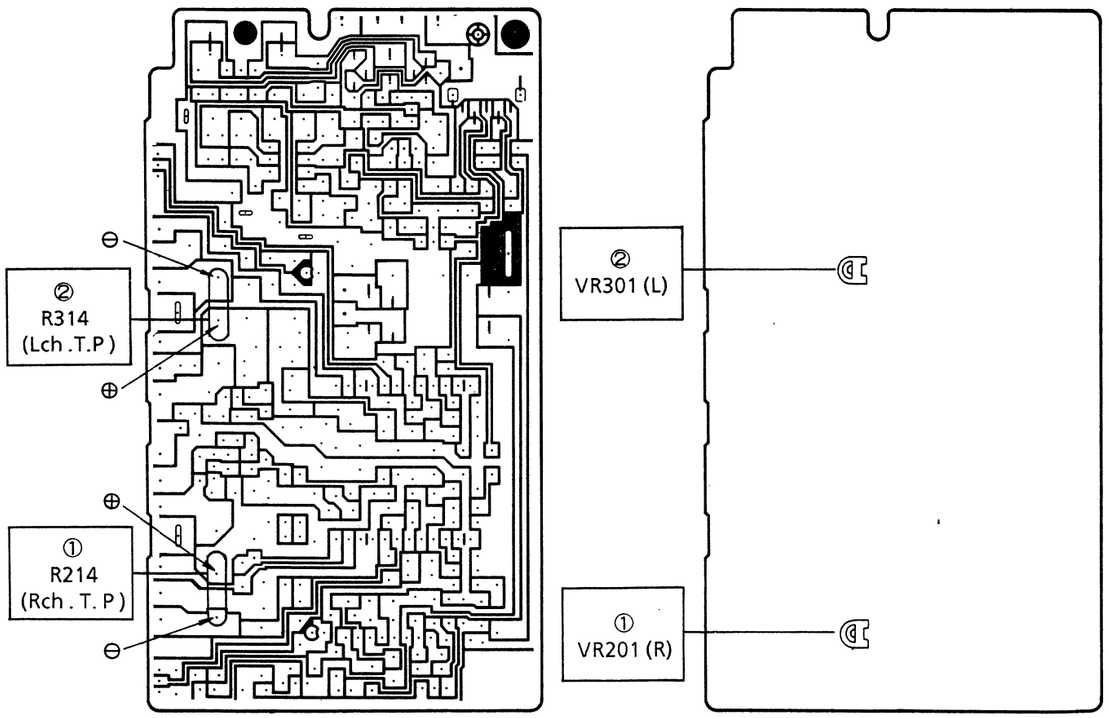
- Power Supplly : 14.4V DC
- Load : Open
- VR201, 301 : Fully counterclockwise
- Connect a relay control lead and ACC input lead.



2. AIDRING CURRENT ALIGNMENT

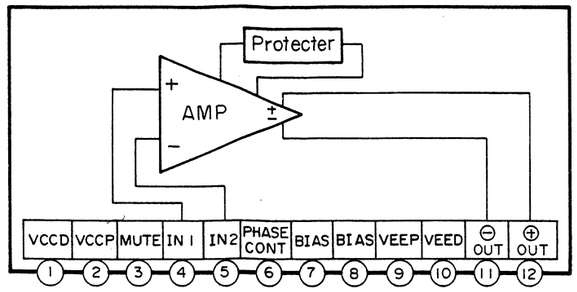
Step	Alignment Item	Channel	VTVM Connection	Adjust	Remarks
1	Aidring Current	Rch	R214 (+) GND (−)	VR201	• Adjust for 6^{+2}_{-3} mV • Slowly rote VR201, VR301. • Connect voltmater, so that it will happen pattern short.
2		Lch	R314 (+) GND (−)	VR301	

3. ALIGNMENT POINTS

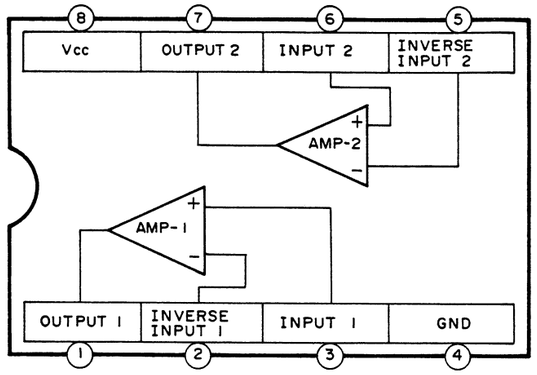


IC BLOCK DIAGRAM

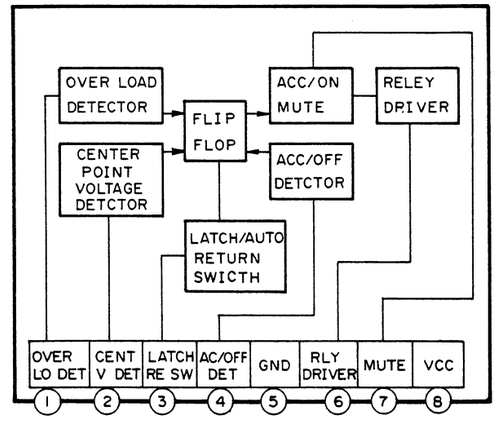
●YEAMUPC1270H



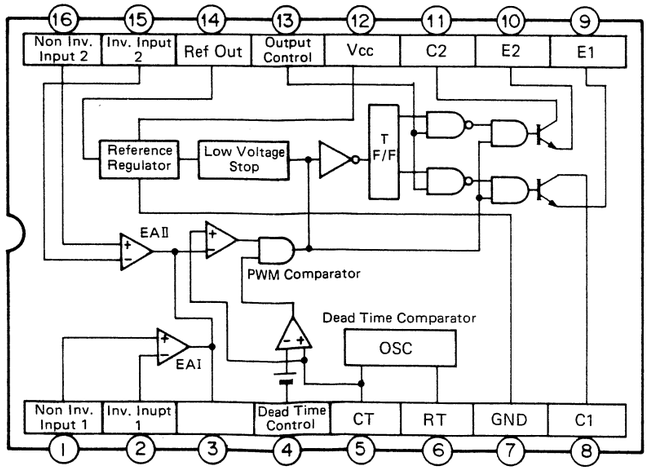
●YEAMUPC4570C



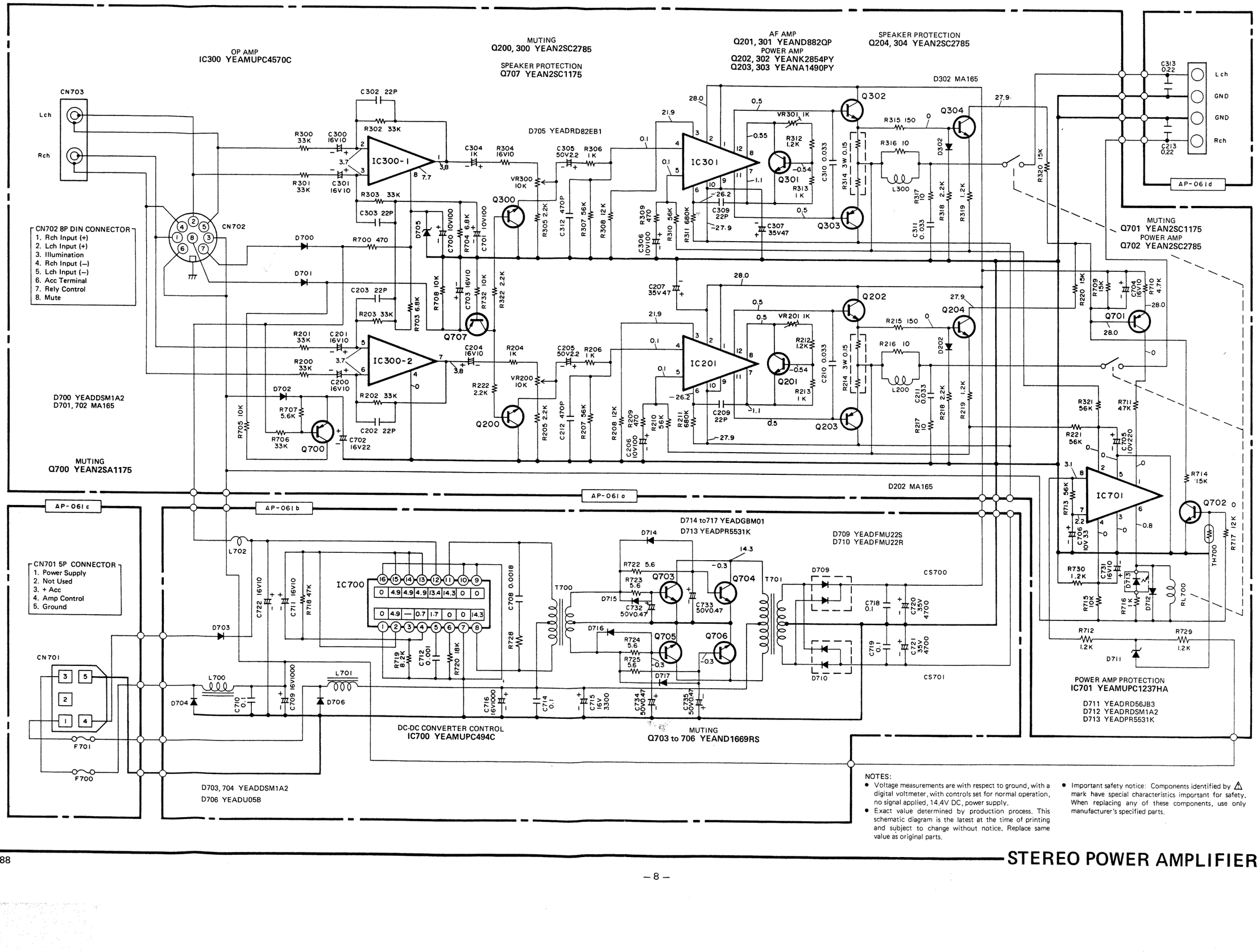
●YEAMUPC1237HA



●YEAMUPC494G



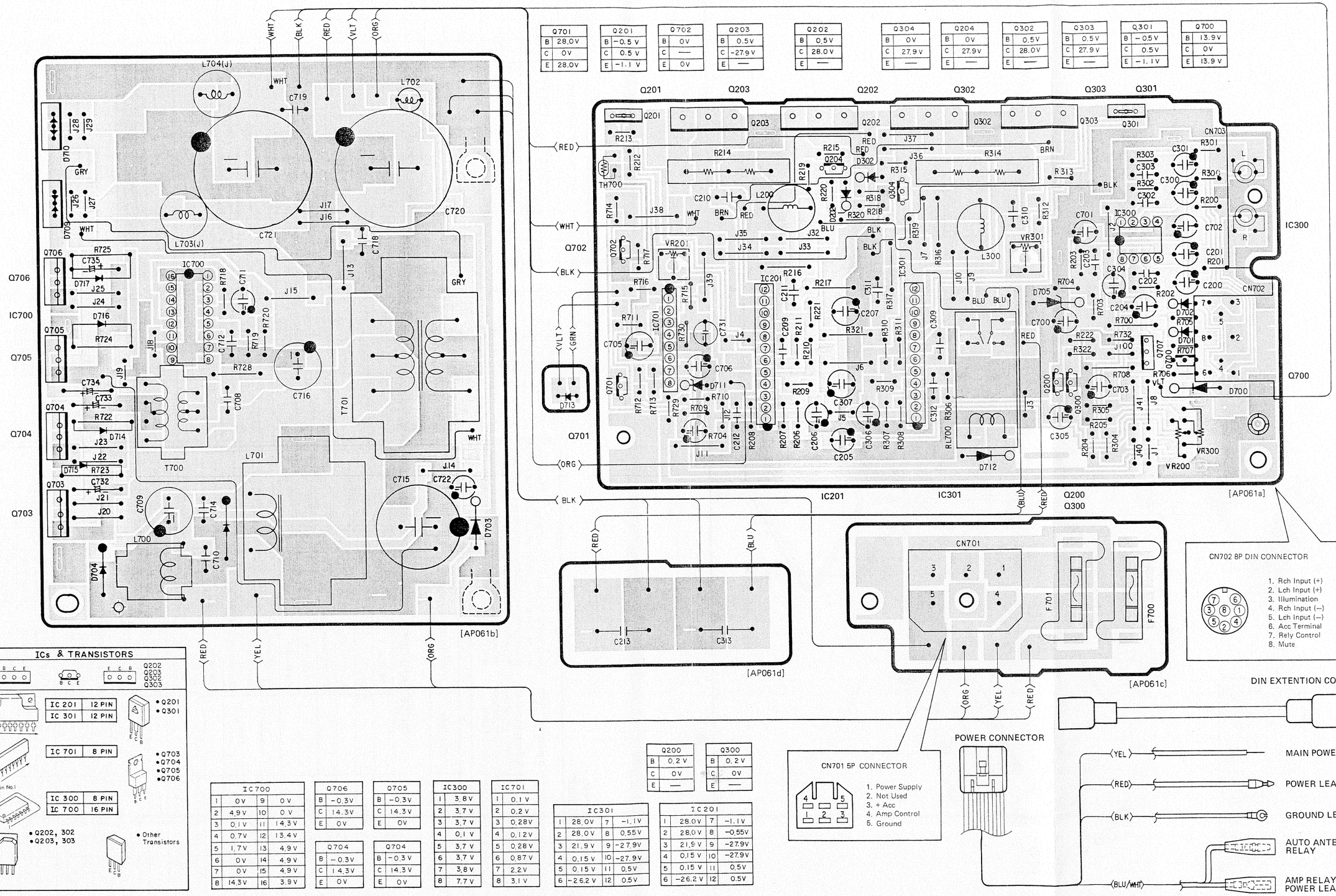
SCHEMATIC DIAGRAM MODEL CX-M200EN



NOTES:

- Voltage measurements are with respect to ground, with a digital voltmeter, with controls set for normal operation, no signal applied, 14.4V DC, power supply.
- Exact value determined by production process. This schematic diagram is the latest at the time of printing and subject to change without notice. Replace same value as original parts.
- Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

WIRING DIAGRAM MODEL CX-M200EN



Q701	
B	28.0V
C	0V
E	28.0V

Q201	
B	−0.5 V
C	0.5 V
E	−1.1 V

Q702	
B	0V
C	—
E	0V

Q203	
B	0.5V
C	−27.9V
E	—

Q202	
B	0.5V
C	28.0V
E	—

Q304	
B	0V
C	27.9V
E	—

Q204	
B	0V
C	27.9V
E	—

Q302	
B	0.5V
C	28.0V
E	—

Q303	
B	0.5V
C	27.9V
E	—

Q301	
B	−0.5V
C	0.5V
E	−1.1V

Q700	
B	13.9V
C	0V
E	13.9V

IC700			
1	0V	9	0V
2	4.9V	10	0V
3	0.1V	11	14.3V
4	0.7V	12	13.4V
5	1.7V	13	4.9V
6	0V	14	4.9V
7	0V	15	4.9V
8	14.3V	16	3.9V

Q706	
B	−0.3V
C	14.3V
E	0V

Q705	
B	−0.3V
C	14.3V
E	0V

Q704	
B	−0.3V
C	14.3V
E	0V

Q704	
B	−0.3V
C	14.3V
E	0V

IC300			
1	3.8V		
2	3.7V		
3	3.7V		
4	0.1V		
5	3.7V		
6	3.7V		
7	3.8V		
8	7.7V		

IC701	
1	0.1V
2	0.2V
3	0.28V
4	0.12V
5	0.28V
6	0.87V
7	2.2V
8	3.1V

IC301			
1	28.0V	7	−1.1V
2	28.0V	8	0.55V
3	21.9V	9	−27.9V
4	0.15V	10	−27.9V
5	0.15V	11	0.5V
6	−26.2V	12	0.5V

IC201			
1	28.0V	7	−1.1V
2	28.0V	8	−0.55V
3	21.9V	9	−27.9V
4	0.15V	10	−27.9V
5	0.15V	11	0.5V
6	−26.2V	12	0.5V

Q200	
B	0.2V
C	0V
E	—

Q300	
B	0.2V
C	0V
E	—

STEREO POWER AMPLIFIER

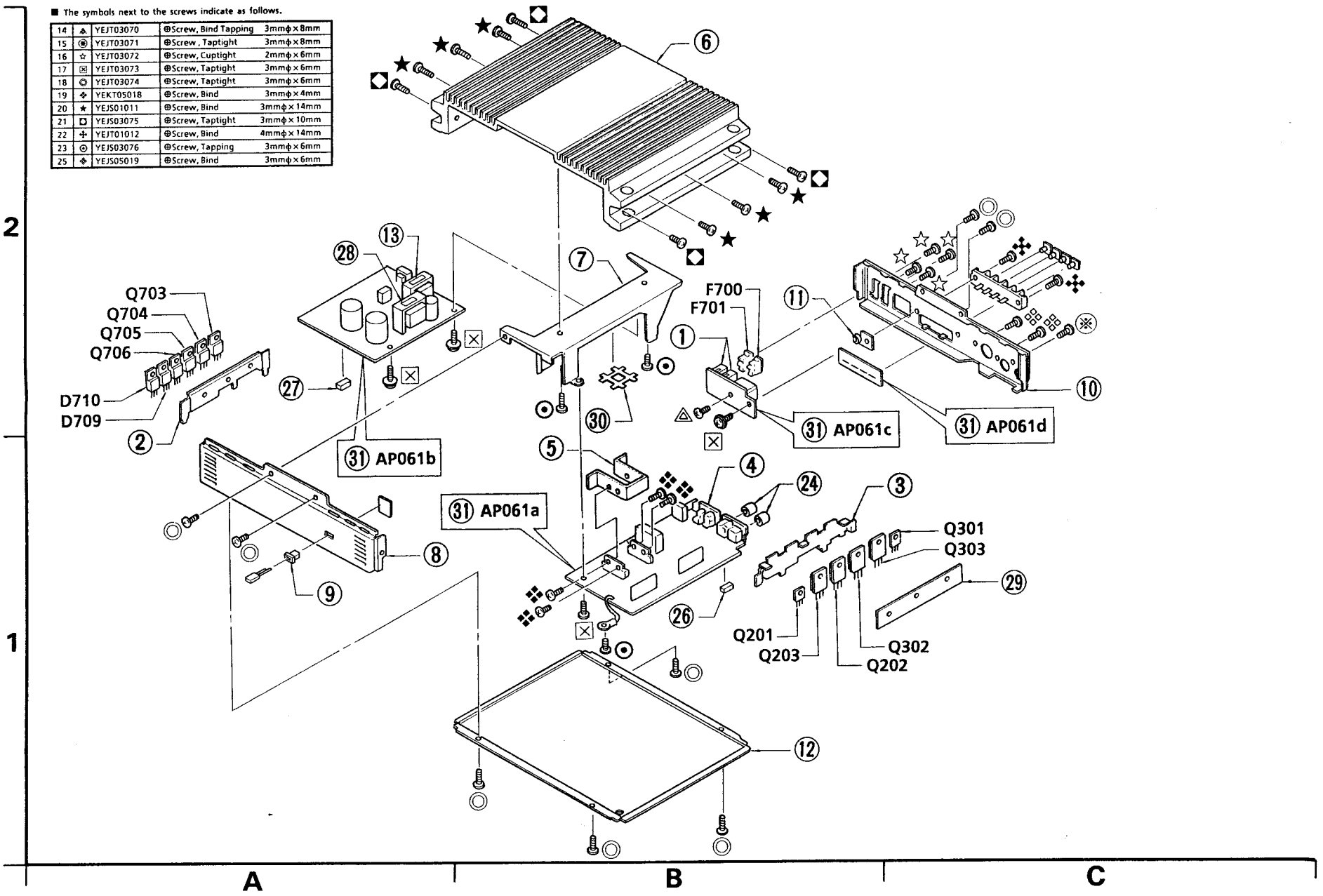
Jan., 1988

EXPLODED VIEW

■ Numbers in ○ are indicated REF. No. in the REPLACEMENT PARTS LIST.

■ The symbols next to the screws indicate as follows.

14	△	YEJT03070	⊕Screw, Bind Tapping	3mmϕ×8mm
15	⊛	YEJT03071	⊕Screw , Taptight	3mmϕ×8mm
16	☆	YEJT03072	⊕Screw, Cuptight	2mmϕ×6mm
17	☒	YEJT03073	⊕Screw, Taptight	3mmϕ×6mm
18	◎	YEJT03074	⊕Screw, Taptight	3mmϕ×6mm
19	❖	YEKT05018	⊕Screw, Bind	3mmϕ×4mm
20	★	YEJS01011	⊕Screw, Bind	3mmϕ×14mm
21	◘	YEJS03075	⊕Screw, Taptight	3mmϕ×10mm
22	✣	YEJT01012	⊕Screw, Bind	4mmϕ×14mm
23	⊙	YEJS03076	⊕Screw, Tapping	3mmϕ×6mm
25	❖	YEJS05019	⊕Screw, Bind	3mmϕ×6mm



Replacement Parts List
Model NO. CX-M200EN

NOTES :
1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice : Components identified by △ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Next to the Ref. No. in the parts list is a location key, to show the general location of the parts shown in the exploded drawing, as in a road map.
4. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.

MODEL CX-M200EN

Ref. No.		Part No.	Part Code	Part Name & Description	Pcs set	Remarks
MISCELLANEOUS						
△F700	(2-B)	YEAF01017		Fuse, 20A	1	
△F701	(2-B)	YEAF01018		Fuse, 3A	1	
CN701		YEAE011156		5P Connector	1	
CN702		YEAE011155		8P DIN Connector	1	
CN703		YEAE011154		RCA 2P Jack	1	
1	(2-B)	YEFK02056		Fuse Holder	2	
2	(2-A)	YEFX0212311		Mounting Bracket (A)	1	
3	(1-B)	YEFX0212310		Mounting Bracket (B)	1	
4	(1-B)	YEFX0212309		Mounting Bracket for DIN	1	
5	(1-B)	YEFF01543		Heat Sink	1	
6	(2-B)	YEFF01551		Heat Sink	1	
7	(2-B)	YEFX0212308		Mounting Bracket for PCB	1	
8	(1-A)	YEFA07199		Front Plate	1	
9	(1-A)	YEFK04506		LED Holder	1	
10	(2-C)	YEFA08305		Rear Plate	1	
11	(2-B)	YEFX0212307		Mounting Bracket for PCB	1	
12	(1-B)	YEFA05402		Bottom Plate	1	
13	(2-B)	YEFS01723		Pad	1	
14	△	YEJT03070		⊕Screw, Bind Tapping 3mmϕ×6mm	1	
15	⊛	YEJT03071		⊕Screw, Taptight 3mmϕ×8mm	1	
16	☆	YEJT03072		⊕Screw, Cuptight 2mmϕ×6mm	4	
17	☒	YEJT03073		⊕Screw, Taptight 3mmϕ×6mm	4	
18	◎	YEJT03074		⊕Screw, Taptight 3mmϕ×6mm	8	
19	❖	YEJS05018		⊕Screw, Bind 3mmϕ×4mm	4	
20	★	YEJS01011		⊕Screw, Bind 3mmϕ×14mm	6	
21	◘	YEJT03075		⊕Screw, Taptiht 3mmϕ×10mm	4	
22	✣	YEJS01012		⊕Screw, Bind 4mmϕ×14mm	2	
23	⊙	YEJT03076		⊕Screw, Tapping 3mmϕ×6mm	3	
24	(1-B)	YEFR04187		Cap	2	
25	❖	YEJS05019		⊕Screw, Bind 3mmϕ×6mm	2	
26	(1-B)	YEFS01724		Pad	1	
27	(2-A)	YEFS01725		Pad	1	
28	(2-A)	YEFS01726		Pad	1	
29	(1-C)	YEFV011068		Insulator	1	
30	(2-B)	YEFX007447		Mounting Bracket	1	
31		YESAP107		PCB w/Component	1	NLA
COMPONENT PARTS						
A1		YEAJ02419		Power Connector	1	
A2		YEAJ02428		Power Extention Cord	1	
A3		YEAE011158		DIN Extention Cord	1	
A4		YBAE01051		Wire Nut	1	
A5		YBFR01015		Bushing	1	
A6		YEJT03002		Tapping Screw 5mmϕ×16mm	4	
PRINTINGS						
		YEFM281371		Instruction Book	1	
		YEFM281378		Instruction Book	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
[AP2037]			**ICs & TRANSISTORS**		
IC201	YEAMUPC1270H		Power Amp Driver	1	
IC300	YEAMUPC4570C		OP Amp	1	
IC301	YEAMUPC1270H		Power Amp Driver	1	
IC700	YEAMUPC494C		DC-DC Convertor Control	1	
IC701	YEAMUPC1237HA		Power Amp Protection	1	
Q200	YEAN2SC2785		Muting	1	
Q201	YEAND882QP		AF Amp	1	
Q202	YEANC3854PY		Power Amp	1	
Q203	YEANA1490PY		Power Amp	1	
Q204	YEAN2SC2785		Speaker Protection	1	
Q300	YEAN2SC2785		Muting	1	
Q301	YEAND882QP		AF Amp	1	
Q302	YEANC3854PY		Power Amp	1	
Q303	YEANA1490PY		Power Amp	1	
Q304	YEAN2SC2785		Speaker Protection	1	
Q700, 701	YEAN2SA1175		Muting	2	
Q702	YEAN2SC2785		Power Amp	1	
Q703 to 706	YEAND1669RS		Muting	4	
Q707	YEAN2SC1175		Speaker Protection	1	
[AP2037]			**DIODES**		
D202	MA165			1	
D302	MA165			1	
D700	YEADDSM1A2			1	
D701, 702	MA165			2	
D703	YEADDSM1A2			1	
D704	YEADDSM1A2			1	
D705	YEADRD82EB1		Zener Diode (8.2V)	1	
D706	YEADU05B			1	
D709	YEADFMU22S			1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
D710	YEADFMU22R			1	
D711	YEADRD56JB3		Zener Diode (5.6V)	1	
D712	YEADDSM1A2			1	
D713	YEADPR5531K		LED (Red)	1	
D714 to 717	YEAMGMB01			4	
[AP2037]			**CAPACITORS**		
C200, 201	ECEA1CU100		10 MFD 16WV Electrolytic	2	
C202, 203	YEU05SL220J		22 PF 50WV Ceramic	2	
C204	ECEA1CU100		10 MFD 16WV Electrolytic	1	
C205	ECEA1HU2R2		2.2 MFD 50WV Electrolytic	1	
C206	ECEA1AU101		100 MFD 10WV Electrolytic	1	
C207	ECEA1VU470		47 MFD 35WV Electrolytic	1	
C209	YEU05SL220J		22 PF 50WV Ceramic	2	
C210, 211	YECQZ1H333K		0.033 MFD 50WV Polyester	2	
C212	YEU05B471K		470 PF 50WV Ceramic	1	
C300, 301	ECEA1CU100		10 MFD 16WV Electrolytic	2	
C302, 303	YEU05SL220J		22 PF 50WV Ceramic	2	
C304	ECEA1CU100		10 MFD 16WV Electrolytic	1	
C305	ECEA1HU2R2		2.2 MFD 50WV Electrolytic	1	
C306	ECEA1AU101		100 MFD 10WV Electrolytic	1	
C307	ECEA1VU470		47 MFD 35WV Electrolytic	1	
C309	YEU05SL220J		22 PF 50WV Ceramic	2	
C310, 311	YECQZ1H333K		0.033 MFD 50WV Polyester	2	
C312	YEU05B471K		470 PF 50WV Ceramic	1	
C700, 701	ECEA1AU101		100 MFD 10WV Electrolytic	2	
C702	ECEA1CU220		22 MFD 16WV Electrolytic	1	
C703, 704	ECEA1CU100		10 MFD 16WV Electrolytic	2	
C705	ECEA1AU221		220 MFD 10WV Electrolytic	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C706	ECEA1AU330		33 MFD 10WV Electrolytic	1	
C708	YECQZ1H182K		0.0018 MFD 50WV Polyester	1	
C709	ECEA1CU102		1000 MFD 16WV Electrolytic	1	
C710	YECQZ1H104K		0.1 MFD 50WV Polyester	1	
C711	ECEA1CU100		10 MFD 16WV Electrolytic	1	
C712	YECQZ1H102K		0.001 MFD 50WV Polyester	1	
C714	YECQZ1H104K		0.1 MFD 50WV Polyester	1	
C715	YEECUPF1C332		3300 MFD 16WV Electrolytic	1	
C716	ECEA1CU102		1000 MFD 16WV Electrolytic	1	
C718, 719	YECQZ1H104K		0.1 MFD 50WV Polyester	2	
C720, 721	YEECLGF1V472		4700 MFD 35WV Electrolytic	2	
C722	ECEA1CU100		10 MFD 16WV Electrolytic	1	
C731	ECEA1CK100		10 MFD 16WV Electrolytic	1	
C732 to 735	ECEA1HUR47		0.47 MFD 50WV Electrolytic	4	
CS700, 701	YECCL55B222M		2200 PF Feedthrouh	2	

[AP2037]

RESISTORS

R200 to 203	ERDS2TJ333		33k ohms 1/4W Carbon	4	
R204	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R205	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R206	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R207	ERDS2TJ563		56k ohms 1/4W Carbon	1	
R208	ERDS2TJ123		12k ohms 1/4W Carbon	1	
R209	ERDS2TJ471		470 ohms 1/4W Carbon	1	
R210	ERDS2TJ563		56k ohms 1/4W Carbon	1	
R211	ERDS2TJ684		680k ohms 1/4W Carbon	1	
R212	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R213	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R214	ERGC33TR15K		0.15 ohms 3W Cement	1	
R215	ERDS2TJ151		150 ohms 1/4W Carbon	1	
R216, 217	ERDS1FJ100		10 ohms 1/2W Carbon	2	
R218	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R219	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R220	ERDS2TJ153		15k ohms 1/4W Carbon	1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R221	ERDS2TJ563		56k ohms 1/4W Carbon	1	
R222	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R300 to 303	ERDS2TJ333		33k ohms 1/4W Carbon	4	
R304	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R305	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R306	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R307	ERDS2TJ563		56k ohms 1/4W Carbon	1	
R308	ERDS2TJ123		12k ohms 1/4W Carbon	1	
R309	ERDS2TJ471		470 ohms 1/4W Carbon	1	
R310	ERDS2TJ563		56k ohms 1/4W Carbon	1	
R311	ERDS2TJ684		680k ohms 1/4W Carbon	1	
R312	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R313	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R314	ERGC33TR15K		0.15 ohms 3W Cement	1	
R315	ERDS2TJ151		150 ohms 1/4W Carbon	1	
R316, 317	ERDS1FJ100		10 ohms 1/2W Carbon	2	
R318	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R319	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R320	ERD25TJ153		15k ohms 1/4W Carbon	1	
R321	ERD25TJ563		56k ohms 1/4W Carbon	1	
R322	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R700	ERD25TJ471		470 ohms 1/4W Carbon	1	
R703, 704	ERDS2TJ682		6.8k ohms 1/4W Carbon	2	
R705	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R706	ERDS2TJ333		33k ohms 1/4W Carbon	1	
R707	ERDS2TJ562		5.6k ohms 1/4W Carbon	1	
R708	ERD25TJ103		10k ohms 1/4W Carbon	1	
R709	ERDS2TJ153		15k ohms 1/4W Carbon	1	
R710	ERDS2TJ472		4.7k ohms 1/4W Carbon	1	
R711	ERDS2TJ473		47k ohms 1/4W Carbon	1	
R712	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R713	ERDS2TJ563		56k ohms 1/4W Carbon	1	
R714	ERDS2TJ153		15k ohms 1/4W Carbon	1	
R715	ERDS2TJ103		10k ohms 1/4W Carbon	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R716	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R717	ERDS2TJ123		12k ohms 1/4W Carbon	1	
R718	ERDS2TJ473		47k ohms 1/4W Carbon	1	
R719	ERDS2TJ822		8.2k ohms 1/4W Carbon	1	
R720	ERDS2TJ183		18k ohms 1/4W Carbon	1	
R722 to 725	ERX1SJ5R6		5.6 ohms 1W Metal Film	4	
R729, 730	ERDS2TJ122		1.2k ohms 1/4W Carbon	2	
R732	ERDS2TJ103		10k ohms 1/4W Carbon	1	
VARIABLE RESISTORS					
VR201, 301	YESVR025		1k ohms Semi Fixed	2	
VR200	YESVR024		10k ohms	1	
VR300	YESVR024		10k ohms	1	
THERMISTOR					
TH700	YESAQ02002			1	
RELAY					
RL700	YEAS15033		Relay	1	
COILS AND TRANSFORMERS					
L200, 300	YELQ12N055		RF Coil	2	
L700	YETQ020F054A		Choke Coil	1	
L701	YETQ030F101		Choke Coil	1	
L702	YELQ05N056		Choke Coil	1	
T700	YETQ044F098		Drive Transformer	1	
T701	YETQ030F099		Drive Transformer	1	